

## **REMARKS**

This amendment is in response to the Office Action dated, December 17, 2003.

Applicant has included a petition for a three month extension, extending the time for response until June 17, 2004. Claims 1-43 were examined in the Office Action. Applicants respectfully request reconsideration of the outstanding rejections for the reasons that follow.

Note that the claims as presently submitted are shown in this amendment. Also note that a copy of the preliminary amendment as filed on December 20, 2002 has been attached to this response. It is unclear whether that amendment was entered, regardless it applies to an amendment to the specification and claim 3. Applicants submit the amended claims do not raise any issues of new matter.

### **A. Claims Objection Addressed**

Claims 1-43 were objected to because of informalities in the misspellings of Pseudomonas and non capitalization of Koi. The problematic claim language has been amended to reflect the Examiner's concerns. Withdraw of the objection is respectfully requested.

### **B. Rejection Under § 112, First Paragraph Addressed**

Claims 3, 5, 16-17, 19, 21, 23 and 27-43 have been rejected for failing to comply with the enablement requirement. In particular, that a deposit need be made under the Budapest Treaty. Applicant respectfully submits that a deposit of the appropriate material was submitted before filing of the present case in compliance with the criteria set forth in 37 C.F.R. §§ 1.801-1.809. Applicant has previously amended the specification to include the appropriate information. If the Examiner requires, the undersigned attorney will file a declaration stating that during the pendency of the application the invention will be afforded to the Commissioner upon request and

that all restrictions upon availability to the public will be irrevocably removed upon granting of a patent.

**B. Rejection Under § 112, Second Paragraph Addressed**

Claims 1-43 were rejected under 35 U.S.C. § 112, second paragraph. Claim 1 was rejected as indefinite for the phrase “the reduction of bacterium.” Applicant has amended claim 1 to conform with the Examiner’s suggested language change. Claims 2-3 and 7 were also rejected for the same problematic language as above and Applicant has amended these claims to be in accordance with the Examiner’s suggestions.

Claims 15 and 17 were rendered vague for lacking antecedent basis. Appropriate amendment to the claims has been made. Claims 19 and 33 were also changed to reflect the Examiner’s suggestion that a deposit strain identifier be used in place of EHC 100. In addition, claims 26 and 28 were amended to conform to the Examiner’s suggested changes to overcome problematic language within the claims. Finally, claims 42 and 43 have been amended to overcome antecedent basis rejections to conform with the Examiner’s suggestions.

**C. Rejection Under § 102 Addressed – Logan et al, U.S. Patent No. 5,746,155.**

Claims 1, 2, 7 and 10 are rejected under 35 U.S.C. § 102(b) as anticipated by Logan.

The rejection is respectfully traversed with respect to amended claim 1, and thereby dependent claims 2, 7 and 10.

Logan et al. does not teach or suggest all the claim limitations found in claim 1. Claim 1 recites a probiotic composition consisting of a biologically pure bacterium of the genus *Bacillus* for the reduction of a pathogenic bacterium. Logan et al. does not teach or suggest a probiotic composition of the genus *Bacillus* for the reduction of a pathogenic bacterium. Rather, Logan teaches the use of microbes for improving water quality and fish growth in a closed recirculating system.

Claims 3-6, 14-21, 26-29 and 32-35 are rejected under 35 U.S.C. § 102(b) as anticipated by Logan. With regard to claims 3, 5, 16, 17, 19, 21, 27, 29, 31, 33 and 35, Logan does not teach or suggest a composition having a strain of bacterium from ATCC deposit accession number B-30535. As is shown throughout the specification and Examples of the present case, this strain was isolated and optimized for its particularly effective ability of reducing pathogenic bacterium from an aquatic environment. Logan does not teach or suggest such a strain of bacteria. With regard to claims 4-5, 14, 15, 18, 20, 26, 28, 29, 32 and 34, it is believed that the claims are allowable over Logan as for the same reason stated above.

As such, Applicants respectfully request withdrawal of the rejection to these claims with respect to Logan.

**D. Rejection Under § 103 Addressed - Logan**

Claims 3-6, 14-21, 26-29 and 32-35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Logan and what is obvious in the art. The rejection is respectfully traversed.

Logan teaches the addition of microbes to an enclosed body of water to improve the yield and growth of non-air breathing animals. Koi fish were treated and analyzed for external parasites and ulcer disease before testing. Salt was added to the tanks to preclude any pathogens from upsetting the study, *i.e.*, determination of yield and growth of non-air breathing animals. Logan actually teaches away from using its stated microbes for the purpose of reducing pathogenic bacterium, otherwise the environments would not be pre-treated for the purpose of removing pathogens prior to testing. In addition, with regard to claims 14, 16, 26 and dependent claims thereto, Logan neither teaches or suggests the recited claim limitations of “adding a sufficient amount” (independent claims) or “determining a level” (dependent claims 17, 28, 29) for these method claims of “reducing levels of pathogenic bacteria” (claims 14 and 16), or “reducing the levels of fish morbidity” (claim 26).

Applicant respectfully solicits withdrawal of the §103(a) rejection based on Logan to claims 3-6, 14-21, 26-29 and 32-35.

E. **Rejection Under § 103(a) Addressed – Logan in view of Hiatt and Villamar**

Claims 8-9, 11-13, 22-25, 30-31, 36-41 and 43 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Logan in view of Hiatt and Villamar. The rejection is respectfully traversed.

As noted above, Applicant respectfully submits that Logan does not teach or suggest a probiotic composition of the genus *Bacillus* for the reduction of a pathogenic bacterium. As such, the combination of Logan with Hiatt and Villamar does not teach or suggest all the limitations found in claims 8-9, 11-13, 22-25, 30-31, 36-41 or 43. In addition a *prima facie* case of obviousness requires “some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.” MPEP §2143.03. Applicant contends that one of ordinary skill in the art would not be motivated from the teachings or suggestions in Logan, in light of Hiatt and Villamar, to modify or combine the three references. As noted above, Logan teaches the use of microbes for improving water quality and fish growth in a closed recirculating system. Hiatt teaches a mixture of *Bacillus* strains and select enzymes to aerobically reduce contamination in aqueous bodies of water, wastewater, and wastewater streams. In particular, the reduction of nitrogenous compounds by the bacteria in these streams. Villimar teaches the process of micro encapsulation and bacterial into aquaculture feeds. Bacteria was encapsulated with foodstuff ingredients and fed to aquatic organisms as a probiotic feedstuff. The combination of Logan and Hiatt and Villimar never suggests or motivates one of ordinary skill of the desirability of combining these references for a probiotic composition of a biologically pure bacterium of the genus *Bacillus* having either CFU less than 99 or 80% spores (claims 8,9), in a Koi, salt or shrimp pond (claims 11-13 and 36-41), in saltwater (claims 22-25), with *Talapia* (30-31), or in treating shellfish (claim 43).

Applicant respectfully solicits withdrawal of the §103(a) rejection based on Logan in view of Hiatt and Villimar to claims 8-9, 11-13, 22-25, 30-31, 36-41 or 43.

**F. Rejection Under § 102 Addressed – Hiatt et al, U.S. Patent No. 6,025,152.**

Claims 1-2, 11, 13, 14, 22, 24, 26, 38, and 40 are rejected under 35 U.S.C. § 102(b) as anticipated by Hiatt.

The rejection is respectfully traversed with respect to amended claim 1, and thereby dependent claims 2, 11, 13, 14, 22, 24, 26, 38 and 40.

Hiatt et al. does not teach or suggest all the claim limitations found in claim 1. Claim 1 recites a probiotic composition consisting of a biologically pure bacterium of the genus *Bacillus* for the reduction of a pathogenic bacterium. Hiatt et al. does not teach or suggest a probiotic composition of a biologically pure bacterium from the genus *Bacillus* for the reduction of a pathogenic bacterium. Rather, Hiatt teaches the use of a mixture of microbes for aerobically reducing contamination in aqueous bodies of water, wastewater, and wastewater streams. In particular, for the reduction of nitrogenous compounds by the bacteria in these streams.

Claims 3, 16, 23, 25, 27, 39, 41 and 42 are rejected under 35 U.S.C. § 102(b) as also anticipated by Hiatt. With regard to these claims, Hiatt does not teach or suggest a composition having a strain of bacterium from ATCC deposit accession number B-30535. As is shown throughout the specification and Examples of the present case, this strain was isolated and optimized for its particularly effective ability of reducing pathogenic bacterium from an aquatic environment. Hiatt does not teach or suggest such a strain of bacteria. These claims are also believed allowable in light of the argument above with regard to Hiatt and claims 2, 11, 13, 14, 22, 24, 26, 38 and 40..

As such, Applicants respectfully request withdrawal of the rejection to these claims with respect to Hiatt.

**G. Rejection Under § 103 Addressed – Hiatt in view of Nader**

Claims 4-10, 12, 15, 17-21, 28-37 and 43 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hiatt in view of Nader. The rejection is respectfully traversed.

As noted above, Applicant respectfully submits that Hiatt does not teach or suggest a probiotic composition of the genus *Bacillus* for the reduction of a pathogenic bacterium. As

such, the combination of Hiatt and Nader does not teach or suggest all the limitations found in claims 4-10, 12, 15, 17-21, 28-37 and 43.

As such, Applicants respectfully request withdrawal of the rejection to these claims with respect to Hiatt in view of Nader.

**F. Summary**


The Applicants thank the Examiner for her thorough review of the claims in this application. Claims 1-43 remain pending. In light of the foregoing amendments and remarks, the Applicants submit that the application is now in condition for allowance, and respectfully request that the application be passed to allowance. In the event the Examiner has questions or comments and a telephone conversation would expedite a resolution, the Applicants invite the Examiner to contact the undersigned attorney at (303) 629-3400.

Please charge the amount of \$475.00 for the amendment and extension of time to Deposit Account No. 04-1415. Should any additional filing fees associated with this amendment be necessary, please consider this a request therefor and charge Deposit Account No. 04-1415 as necessary.

The Applicants respectfully request a timely Notice of Allowance be issued in this case.

Dated this 17 day of June, 200~~3~~<sup>4</sup>

Respectfully submitted:

  
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PJP/sd  
cc: IP Docketing